



Attorney Docket No.: 56232.90

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Examiner:
Ai Kondo	Sanza L. McClendon
Serial No. 10/623,872	Art Unit: 1711
Filed: July 21, 2003	
Title: Curable White Ink	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Declaration under 37 CFR § 1.132

I, Satoshi Masumi, declare the following:

The Example Inks 1-7 disclosed in Table 1 at [0078] of Niwa were prepared in accordance with the description of Niwa and their viscosities were measured. The viscosities were measured using MCR 300 made by Physica Co. Ltd., under the condition of a shear rate 1000 (1/sec). It is noted that 50° C is a temperature at which the ink is ejected from the nozzle of the ink-jet head.

The obtained values and the feature of the inks 1-7 are listed in Table A1. The viscosities of Inventive Ink Composition 1 are also listed in Table A1 for comparison.

None of Example Inks 1-7 satisfies all of the requirements of the amended claim 1.

Example inks 1, 2, and 4 - 7 each have a larger viscosity value at 40° C than the ink of the present claims. The image quality obtained by an ink having a larger viscosity than the present claim is poor compared to that produced by the ink of the present claims.

Example ink 3 showed very low viscosity. This leads to bleeding of the ink.

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(The effects of the change of viscosity is described in page 43 of the present specification.)

Example ink 6 has viscosities at 50° C within the range of the present claim. However, the ratio of oxetane compound (50%) was smaller than the under limit of the present claims (65-95%). This leads to less stable jetting property and resulting in poor image quality compared to the ink of the present claim 1.

(It is stated at page 12 of the present specification that the ink having a ratio of oxetane compound in the range of 65-95 wt% can achieve the preferable effects of the present invention.)

Table A1

Ink of Niwa	Viscosity at 25° C	Viscosity at 30° C	Viscosity at 50° C	Remarks
Example 1	152	118	49	No epoxy, no vinyl ether is used.
Example 2	103	78	31	No epoxy, no vinyl ether is used.
Example 3	5	5	3	Very low viscosity
Example 4	110	88	35	No epoxy, no vinyl ether is used.
Example 5	153	121	52	High viscosity
Example 6	75	61	25	The ratio of oxetane is 50 wt%.
Example 7	182	145	60	High viscosity
Ink Composition 1	84	64	27	Present specification page 45

The unit of the viscosity is mPa·s

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By:

Satoshi Masumi

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Date:

September 29, 2006